

Salim Malakouti

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Technical Skills

Programming Languages

Expert in Java

Experienced in Python, C++ and C

Familiar with ML

Front End Design

HTML5, CSS3, Javascript, JQuery, Coffee Script, XML

Back-end Development and Scripting

Expert in PHP, Experienced in Javascript, Experienced in Node.js, J2EE, Bash Scripting

Databases

Expert in MySQL, HBase, DB4O, MapDB,

Experienced in SQL Server and MongoDB

Operating Systems:

Expert in Unix/Linux, Mac OS X, Windows

Tools, Frameworks and Platforms:

Expert in Weka, Nutch, Solr, Hadoop, WordNet, Eclipse RCP, JUnit, Apache Server, Tomcat

Experienced in Jasmine, Wireshark

Familiar with RapidMiner, Webkit, OSGi, Axis2, Peersim

Other

Team Management

Education

PHD. Student in Computer Science (First Semester)

2013 - now

University of Pittsburgh, Pittsburgh, Pennsylvania

Bachelor of Software Engineering, GPA: 3.6/4 (in top 10 students out 100)

2008- 2013

Amirkabir University of Technology, Tehran, Iran

Professional Experience

Developer and Researcher at Kavande Persian Search Engine

2011

Student Intern. Continued as a short-term job as a part of ten computer science professors and PHD to BSc students, Working on analyzing page segmentation and block-based linked based algorithms such PageRank and optimization of these algorithms for Persian language using Java as the main language and Solr, Nutch and Webkit as main tools and frameworks.

Developer at Behin System

2009

Student Internship. Working on implementation of back-end of a scholar Meta Search Engine for University of Tehran Implemented in J2EE. The team consisted of a faculty of university and four computer science students. Responsible for writing crawlers for information extraction from scholarly research databases such as IEEEExplore.

Developer and Researcher at S.O.S RoboCup Rescue Simulation Team (S.O.S.)

2009 - 2013

We designed Intelligent Multi Agent software using Java language for disaster management and controlling rescue agents after earthquakes and disasters in cities. We have also received many awards through our participation. Five to ten members each year. Responsibilities such as designing and implementing intelligent decision making, team leader and responsible for financial and administrative management of the team in 2010 up to 2013.

Projects

Automatic Student Short Answer Grading System

2014

The aim of this project was to design a software using Natural Language Processing and Machine Learning techniques to automatically assign correct, incorrect, partially correct, irrelevant and out of domain labels to students' answers to questions. We deployed and tested many text entailment, text similarity and machine methods and examined their performance. We also developed a baseline for this task in java, which can be found [here](#). More information on the final code can also be found [here](#). As a side project, we also developed a physics corpus using Nutch from 925 pages of Wikipedia and other open source resource that can be found [here](#). More information can be found on the provided links.

Computer-aided Translation Software for Persian Language**2013**

Software Designer and Developer. Used various frameworks such as **Equinox**, **Eclipse RCP** and **MapDB** to develop software as Computer Aided Translation tool and a benchmark for NLP projects in Persian language. This software is a similar to an IDE for translation of documents from a to Persian language. This software is developed and implemented on top of Eclipse Rich Client Platform and provides fundamental features of any Computer-aided Translation Software.

GradsTeria: A semi private social network for graduates**2012-2013**

Founder and developer. We have utilized **PHP**, **MySQL** and **HBase** as back-end technologies of this project. I personally started GradTeria as a personal hobby for my graduation ceremony. However, I have decided to continue this project to develop a service through which students may be able to create their own private social networks within a global public social network which is semi hidden from users who are not a member of the network.

Smoke Simulator**2009-2013**

Developer and coordinator. This project has been started, as a part of the RoboCup Rescue Simulation since 2013th competition and its purpose is to develop a Smoke Simulator for the RoboCup Rescue Simulation League's Server Simulator. A simple explanation of this project exists in 2013's rulebook, which can be found here:

<http://roborescue.sourceforge.net/2013/rules2013.pdf>

Data Mining and Machine Learning related course Projects**2009-2013**

Identification of hidden data in images and Image color reduction using unsupervised learning algorithms and tools like **Weka** software and Java programming language.

DJRT: Dynamic Java Reflection Toolkit**2011**

A library to simplify using Java Reflection written to use in a course project.

<https://github.com/salimm/DynamicJavaReflectionToolkit>

University Social Network Software Architecture Design**2011**

Design of a distributed Social Network architecture utilizing MySQL, HBase, Linux and Apache Servers, PHP etc. consisted of requirement analysis, Use Case Analysis, Software design using UML as the final project for Advanced Software Engineering course.

Memory Restricted Information Retrieval Engine**2010**

Implementing Vector based Search Engine, which was limited to work under only 60 MB of memory. The software was intended to scan, tokenize, stem, index (Using a our hybrid implementation of Trie) and store information such as term frequency TF/IDF for input files as large as 8GB. We used Java programming language to implement the software, we also utilized Java memory analysis tool Visual VM to study heap dump and optimize software's memory usage. A three-member team working for one month.

Teaching Experience**Data Structures CS0445 Teacher Assistant @ University of Pittsburgh****Spring 2014**

Holding recitation class

Java CS401 and CS007 Teacher Assistant @ University of Pittsburgh**Fall 2013**

Grader

Databases Workshop Series @ Amirkabir of Technology**Spring 2013**

Lecturer for MySQL, HBase, MapDB, DB4O

Data Mining @ Amirkabir of Technology**Spring 2013**

Teacher Assistant responsible for designing projects, lectures, grading / instructed by Dr. Khadivi

Artificial Intelligence @ Amirkabir of Technology**Fall 2012**

Teacher Assistant responsible for designing projects, lectures, grading / instructed by Dr. Ebadzadeh

Fundamental of Database Design @ Amirkabir of Technology	Fall 2011, Fall 2012
Teacher Assistant responsible for designing projects, lectures / instructed by Dr. Khadivi	
Advanced Programming @ Amirkabir of Technology	Spring 2010
Teacher Assistant responsible for designing projects, lectures, grading / instructed by Dr. Pourvatan	
Programming Basics @ Amirkabir of Technology	Fall 2009
Teacher Assistant responsible for lectures, grading / instructed by Dr. Pourvatan	
Bash Scripting @ 4th National Workshop and Festival if Linux	Fall 2012
Lecturer. An introduction to bash scripting.	
Web Programming in Linux @ 3rd National Workshop and Festival if Linux	Fall 2011
Lecturer. An introduction to Apache server installation and basic management and web programming on LAMP (Linux, Apache, MySQL PHP).	
Bash Scripting @ 3rd National Workshop and Festival if Linux	Fall 2011
Lecturer. An introduction to bash scripting.	

Management Experiences

Head of Student Scientific Association	2009-2010
Computer Engineering and Information Technology department of Amirkabir University of Technology.	
Responsible for programs:	
<ul style="list-style-type: none"> • 2nd National AUT Linux Festival and Workshop of 10th Local ACM contest with participation of top universities of Tehran. • 2nd and 3rd AUT AI challenges. • Conferences and workshops 	
Co-Manager of Student Executive Committee	2010
5 th National and 2 nd International E-learning conference and workshop held in Amirkabir University of Technology	
Team Leader	2012
Team leader of participation of Amirkabir University of Technology's team, participating in 2012 Data Mining Cup held in Germany. (http://www.data-mining-cup.de/en)	
Team Leader	2011
Team leader for 2011 participations of S.O.S. team in RoboCup competitions. http://sos-rcrs.com	

Professional Activities

Maintenance Committee Member of RoboCup Rescue Simulation League	2013 - 2014
As a part of International RoboCup Federation. Responsible for enhancing rules, advancing the league. Implementation of Smoke Simulator and aftershocks for the disaster simulator. League's 2013 rulebook contains several of our doings, which can be found here: http://roborescue.sourceforge.net/2013/rules2013.pdf	
Technical Committee Member of Fraud Detection League	2012
2012 Artificial Intelligence and Robotic competition (AUTCUP) held in Tehran. Responsible as a referee and a part of the team (Consisting of five people including Prof. Khadivi)	
Technical Committee Member of RoboCup Rescue Simulation League	2010
2013 National Khawrazmi Robotics and 2nd International AUTCUP Competition held in Tehran, Iran. Responsible as a referee and for holding the competition.	

Relevant Coursework

Courses: Data Mining, Artificial Intelligence, Principles of Database Design, Data Structures & Algorithms, Information Retrieval, Machine Learning (Coursera), Software Engineering1 & 2, Computer Network1 & 2, Information And Communication Security, Internet Engineering, Object Oriented Programming,

Current Courses: Natural Language Processing

Honors

2nd place (2013) and 3rd (2012) in RoboCup Rescue Simulation

2012 - 2013

International RoboCup competitions held in Mexico and Netherlands.

13th place in 2013 Data Mining Cup held in Germany

2012 - 2013

We ranked 13th among 63 participated teams from more than 35 top American, European and Asian universities

Spoken Languages

Persian (native), English (fluent), Arabic (familiar)